INDEX

Abbott, Ernest V. (paper), The Occurrence and Action of Fungi in Soils, 207–216
Acid phosphate, effect of, on liberation of soil potassium, 395–397
Actinomycetes, effect of partial sterilization of soils on, 353
Alfalfa—
  A Preliminary Study of the Effect of Sodium Chloride upon, Grown in Solution Cultures (paper), S. Lomanitz, 183–192
  Effect of Sulfur, Calcium and Phosphorus on the Yield and Composition of, on Six Types of Idaho Soils (paper), Ray E. Neidig, G. R. McDole and H. P. Magnuson, 127–136
Alkali Soil, The Leaching of (paper), J. E. Greaves, C. T. Hirst and Yeppa Lund, 407–426
Ammonification, studies on, with fungi, 209–210
Auten, J. T. (paper), Organic Phosphorus of Soils, 281–294

Bacteria—
  effect of toluene and heat treatment on numbers of, in soils, 151–154, 353–356
  spore formers and non-spore formers as affected by partial sterilization, 353–354
Bicarbonates—
  equilibrum studies of sodium, and carbonates, 295–320
  extraction of, from alkali soils, 467
Blair, A. W., and Prince, A. L. (paper), The Influence of the Nitrogen Treatment on the Content of Nitrogen, Carbon and Phosphoric Acid in a Soil Varying in Mechanical Composition, 115–119
Bollen, W. B., Halversen, W. V., and (paper), Studies on Sulfur Oxidation in Oregon Soils, 479–490
Buffer values of some Oregon soils, 487–488

Calcic additions, effect of, on sulfate outgo from soil 1–40, 159–182
Calcic and Magnesic Additions, The Influence of, upon the Outgo of Sulfates from a Loam Soil as Measured by Lysimeter Leachings over an 8-year Period (paper), W. H. MacIntire, W. M. Shaw and J. B. Young, 1–40
Calcium—
  comparison of, found by the displacement and water extract method, 466
  effect of —
    absorption of, by plants, 228, 233–234
    on liberation of soil potassium, 217–223
    on yield and composition of alfalfa, 127–136
  outgo of, from lysimeter tanks, 322–332, 450–462
  removal of, in leachings of variously treated alkali soils, 416–419
Calcium carbonate—
  effect of—
    on biological activities of soil, 253–254
    on outgo of calcium from lysimeters, 330
    on outgo of magnesium from lysimeters, 334, 336
Calcium oxide—
  effect of—
    on biological activities in soil, 251–253, 344–350
    on leachings in lysimeter studies, 322, 332
Carbonates, equilibrium studies of sodium, and bicarbonates, 295–320
Carbon bisulfide—
  effect of, on biological activities of soil, 263–267
Carbon dioxide—
  influence of various treatment on production of, in soil, 267
  in sterilized soils, 402–405
  liberation of, in relation to availability of potassium, 398–405
Carleton, Everett A. (paper), Comparison of the Jones Calcium Acetate Method for Lime Requirement with the Hydrogen-ion-Concentration of Some Quebec Soils, 79–90

Chlorine—
absorption of, by plants, 232–233
effect of sodium chloride on, of alfalfa, 189
Chlorosis, the, of pineapple plants grown on manganiferous soils, 269–274
Culture solution—
comparison of the growth of plants in, and in soils, 370–377
effect of—
different volumes of, on plant growth, 367–370
sodium chloride upon alfalfa grown in, 183–192
expressing the composition of, 384
phosphates in, as compared with those in soil solution, 379–380

Dolomite—
effect of—
on liberation of soil potassium, 217–223
on outgo of calcium from lysimeters, 331
on outgo of magnesium from lysimeters, 336–337
on outgo of sulfates from soil, 1–40

Feldspars, liberation of potassium from, 390–406
Ferrous sulfate—
effect of, on calcium and magnesium leachings, 452–455, 457–458
effect of, on outgo of sulfates in soil, 152–189
Fertilizer treatment, response of soils to, 442–446
Fieger, Ernest A., Rost, Clayton O., and (paper), Effect of Drying and Storage upon the Hydrogen-ion Concentration of Soil Samples, 121–126
Fungi—
effect of, on solubility of rock phosphate, 210–211, 214
effect of toluene and heat treatment on number of, in soil, 151–154, 352–353
sulfur oxidized by, 212–214
The Occurrence and Action of, in Soils (paper), Ernest V. Abbott, 207–216

Gedroiz, K. K. (paper), The Hydrochloric Acid Method for Determining in the Soil the Cations Present in an Absorbed Condition, 473–474
Greaves, J. E., Hirst, C. T. and Lund Yeppa (paper), The Leaching of Alkali Soil, 407–426
Gypsum, effect of, on water soluble potassium, 134–135

Halversen, W. V. and Bollen, W. B. (paper), Studies on Sulfur Oxidation in Oregon Soils, 479–490
Heat, effect of, on bacteria, fungi and accumulation of soluble nitrogen in soil, 151–154
Hibbard, P. L. (paper), Comparison of the Soil Solution by Displacement Method and the Water Extract of Alkali Soils, 465–471
Hirst, C. T., Greaves, J. E. and Lund Yeppa (paper), The Leaching of Alkali Soils, 407–426
Hoagland, D. R. (paper), The Absorption of Ions by Plants, 225–246
Hoagland, D. R. and Martin, J. C. (paper), A Comparison of Sand and Solution Cultures with Soils as Media for Plant Growth, 367–388
Hydrochloric acid method for determining absorbed cations in soils, 473–474
Hydrogen-ion-concentration—
and litmus test for soil reaction, 91–94
and soil moisture influencing development of potato scab, 69–73
colorimetric and electrometric determination of, in soil extract, 83–90
effect of, on liberation of soil potassium, 394
in relation to plant distribution, 48–49
in relation to root distribution, 50–53
in relation to sulfur oxidation in soils, 488–489
of culture solutions with alfalfa grown in such solution, 189–190
of Soil Samples, Effect of Drying and Storage upon the (paper), Clayton O. Rost and Ernest A. Fieger, 121–126
of Some Quebec Soils, A Comparison of the Jones Method for Lime Requirement with the (paper), Everett A. Carleton, 79–90
of subsoil, 41–48
relation of soil depth to, 41–54

Iron—
availability of—
and plant growth, 370
in manganiferous soils, 273

Johnson, Harlan W. (paper), A New Apparatus for Mechanical Analysis of Soils, 363–366
Jones method for determining lime requirement as compared with the hydrogen-ion-concentration method, 79–90

Kelley, Arthur Pierson (paper), Soil Acidity, an Ecological Factor, 41–54
  soils and methods of testing, 41–48
  relation to root distribution, 48–49
  plant distribution, 50–53

Lime, effect of, on water soluble potassium, 134–135, 217–223
Lime requirement, a comparison of Jones calcium acetate method with the hydrogen-ion concentration, 79–90
Litmus Method for Detectng the Soil Reaction, The (paper), Everett A. Carleton, 91–94
Lomanitz, S. (paper), A Preliminary Study of the Effects of Sodium Chloride upon Alfalfa Grown in Solution Cultures, 183–192
Lund Yeppa, Greaves, J. E., Hirst, C. T. and (paper), The Leaching of Alkali Soil, 407–426
Lysimeter—
  studies on the outgo and retention of calcium and magnesium, 322–341, 450–462
  sulfates in, leachings, 1–40
Lysimeters, The Effect of Plants on the Concentration of Drainage Water from the Cornell (paper), Benjamin D. Wilson, 427–432

MacIntire, W. H., Shaw, W. M. and Young, J. B. (paper), A 5-year Lysimeter Study of the Supposed Liberation of Soil Potassium by Calcic and Magnesic Additions, 217–223
MacIntire, W. H., Shaw, W. M. and Young, J. B. (paper), Influence of Calcic and Magnesic Treatments upon Sulfate Leachings from Soil Alone and with Additions of Ferrous Sulfate, Pyrite and Sulfur, 159–182
MacIntire, W. H., Shaw, W. M. and Young, J. B. (paper), Reciprocal Repression Exerted by Calcic and Magnesic Additions upon the Solubility of Native Materials in Surface Soil, 449–464
MacIntire, W. H., Shaw, W. M. and Young J. B. (paper), The Influence of Calcic and Magnesic Additions upon the outgo of Sulfates from a Loam Soil as Measured by Lysimeter Leachings over an 8-year Period, 1–40
MacIntire, W. H., Shaw, W. M. and Young, J. B. (paper), The Variant Rôles of Soil and Subsoil in Calcium-Magnesium Interchange, 321–341
Magnesite—
  effect of—
    on calcium outgo from lysimeters, 331
    on magnesium outgo from lysimeters, 337
    on sulfate outgo from soils, 1–40
Magnesium—
  absorption of, by plants, 228
  effect of, on liberation of soil potassium, 217–223
  extractions by various methods, 466
  outgo of, from lysimeter tanks, 332–338, 450–462
  removal of, in leachings of variously treated alkali soils, 416–419
Magnesium carbonate—
  effect of, on outgo of calcium from lysimeters, 330
  effect of, on outgo of magnesium from lysimeters, 335
Magnesium oxide—
  effect of, on outgo of calcium from lysimeters, 322–330
  effect of, on outgo of magnesium from lysimeters, 332–334, 450–462
Magnuson, H. P., Neidig, Ray E., McDole, G. R. and (paper), Effect of Sulfur, Calcium and Phosphorus on the Yield and Composition of Alfalfa on Six Types of Idaho Soils, 127–136
Magnuson, Harry P., Neidig, Ray E. and (paper), Equilibrium Studies of Sodium Carbonates and Bicarbonates in some Idaho Soils, 295–320
Martin, J. C., Hoagland, D. R. and (paper), A Comparison of Sand and Solution Cultures with Soils as Media for Plant Growth, 367–388
Martin, Thomas L. (paper), Soil Flora Studies, 475–477

Martin, Wm. H (paper), Influence of Soil Moisture and Acidity on the Development of Potato Scab, 69–73
McCool, M. M., Veatch, J. O. and Spurway, C. H. (paper), Soil Profile Studies in Michigan, 95–106
McDole, G. R., Neidig, Ray E. and Magnuson, H. P. (paper), Effect of Sulfur, Calcium and Phosphorus on the Yield and Composition of Alfalfa on Six Types of Idaho Soils, 127–136
McGeorge, W. T. (paper), Acidity of Highly Basic Soils, 195–206
McGeorge, W. T. (paper), The Chlorosis of Pineapple Plants Grown on Manganiferous Soils, 269–274
McHargue, J. S. (paper), Convenient Supports for Plants in Pot or Water Culture Experiments, 359–360
Millar, C. E. (paper), Studies on Virgin and Depleted Soils, 433–448
Moisture—
effect of, on soil color, 275–279
Influence of Soil, and Acidity on the Development of Potato Scab (paper), Wm. H. Martin, 69–73
Morse, F. W. (paper), Comparative Effect of Muriate and Sulfate of Potash on the Soil in a Long Continued Fertilizer Experiment, 107–114

Neidig, Ray E. and Magnuson, Harry P. (paper), Equilibrium Studies of Sodium Carbonates and Bicarbonates in Some Idaho Soils, 295–320
Neidig, Ray E., McDole, G. R. and Magnuson, H. P. (paper), Effect of Sulfur, Calcium and Phosphorus on the Yield and Composition of Alfalfa on Six Types of Idaho Soils, 127–136
Nitrates—
absorption of, by plants, 228
extraction of, from alkali soils, 467
in cropped and uncropped soils, 430–432
Nitrification as an index of soil fertility, 55–67
Nitrogen—
content of fertilized and unfertilized soils, 116
determinations as a criterion of the crop producing power of soil, 117
effect of sodium chloride on, of alfalfa, 189
removal of, in leachings of variously treated alkali soils, 421–422

O'Neal, A. M. (paper), The Effect of Moisture on Soil Color, 275–279
Organic matter—
effect of, on solubility of cropped and virgin soils, 439–440
influence of, on biological activities in soils, 266

Parker, F. W. and Tidmore, J. W. (paper), A Modification on the Truog Soil Acidity Test, 75–78
Phosphorus—
absorption of, by plants, 233
effect of—
fungi on solubility of, 210–211
on yield and composition of alfalfa, 127–136
organic, of soils, 281–294
removal of, in leachings of variously treated alkali soils, 419–420
Phosphate extraction by various methods, 467
Plant distribution as related to soil acidity, 41–54
Plant growth, a comparison of sand and solution cultures with soils as a media for, 367–388
Plant nutrients, loss of, in drainage of alkali soils, 423–424
Plants—
Absorption of Ions by (paper), D. R. Hoagland, 225–246
comparison of the growth of, in solution cultures, sand and soils, 370–377
Convenient Support for, in Pot or Water Culture Experiments (paper), J. S. McHargue, 359–360
the effect of, on the concentration of drainage water from lysimeters, 427–432
Potash, Muriate and Sulfate of, Comparative Effect of, on the Soil in a Long Continued Fertilizer Experiment, (paper), F. W. Morse, 107–114
Potassium—
Absorption of, by plants, 228, 231
A 5-year Lysimeter Study of the Supposed Liberation of Soil, by Calcic and Magnesic Additions (paper), W. H.

MacIntire, W. M. Shaw and J. B. Young, 217–223
effect of manure extract on liberation of soil, 390–391
removal of, in leachings of variously treated alkali soils, 420–421
The Liberation of, from Feldspars and of Potassium and Carbon Dioxide from Soils by Fertilizer and Acid Treatment (paper), S. C. Vandecayeye, 389–406
water soluble, as affected by lime, lime and sulfur, gypsum and sulfur alone in soil, 134–135
Prince, A. L., Blair, A. W. and (paper), The Influence of the Nitrogen Treatment on the Content of Nitrogen, Carbon and Phosphoric Acid in a Soil Varying in Mechanical Composition, 115–119
Protozoa, influence of soil treatment on activities of, 250
Pyrite, effect of—
on calcium and magnesium leachings, 454–455, 458–460
on sulfate outgo of soils, 152–189

Rost, Clayton O. and Fieger, Ernest A. (paper), Effect of Drying and Storage upon the Hydrogen-ion Concentration of Soil Samples, 121–126

Sand Cultures, a comparison of, and solution cultures with soils as media for plant growth, 367–388
Serpentine—
effect of—
on outgo of calcium from lysimeters, 331
on outgo of magnesium from lysimeters, 337–338
on outgo of sulfates from soil, 1–40
Shaw, W. M., MacIntire, W. H. and Young, J. B. (paper), A 5-Year Lysimeter Study of the Supposed Liberation of Soil Potassium by Calcic and Magnesic Additions, 217–223
Shaw, W. M., MacIntire, W. H. and Young, J. B. (paper), Influence of Calcic and Magnesic Treatments upon Sulfate Leachings from Soil Alone and with Additions of Ferrous Sulfate, Pyrite and Sulfur, 159–182
Shaw, W. M., MacIntire, W. H. and Young, J. B. (paper), Reciprocal Repression Exerted by Calcic and Magnesic Additions upon the Solubility of Native Materials in Surface Soil, 449–464
Shaw, W. M., MacIntire, W. H. and Young, J. B. (paper), The Influence of Calcic and Magnesic Additions upon the Outgo of Sulfates from a Loam Soil as Measured by Lysimeter Leachings over an 8-Year Period, 1–40
Shaw, W. M., MacIntire, W. H. and Young, J. B. (paper), The Variant Rôles of Soil and Subsoil in Calcium-Magnesium Interchange, 321–341
Sodium—
absorption of, by plants, 231
carbonate, effect of, on leachings and structure of alkali soils, 409–425
Carbonates and Bicarbonates, Equilibrium Studies of, in Some Idaho Soils. (paper), Ray E. Neidig and Harry P. Magnuson, 295–320
Sodium chloride, effect of, on alfalfa grown in culture solutions, 183–192
effect of, on leachings and structure of alkali soils, 409–425
Sodium Sulfate, effect of, on leachings and structure of alkali soils, 409–425
Soil—
air drying of, influence of, on biological activities, 254–258
alkali, methods of reclaiming, 407
Color, Effect of Moisture on (paper), A. M. O'Neal, 275–279
Flora Studies (paper), Thomas L. Martin, 475–477
heating of, influence of, on biological activities, 258–260
lime requirement of, as determined by the Jones and hydrogen-ion concentration method, 79–90
moisture, influence of, on development of potato scab, 69–73
Microbiological Analyses of, as an Index of Soil Fertility. IV. Nitrification (paper), Selman A. Waksman, 55–67
Partial Sterilization of, Microbiological Activities and Soil Fertility, I. (paper), Selman A. Waksman and Robert L. Starkey, 137–156, II. 247–268, III. 343–357

Profile Studies in Michigan (paper), M. M. McCool, J. O. Veatch and C. H. Spurway, 95–106
Reciprocal Repression Exerted by Calcic and Magnesic Additions upon the Solubility of Native Materials in Surface Soil, W. H. MacIntire, W. M. Shaw, and J. B. Young, 449–464
The Hydrochloric Acid Method for Determining in the, the Cations Present in an Absorbed Condition (paper), K. K. Gedroiz, 473–474
the litmus tests for detection of reaction of, 91–94
The Variant Rôles of, and Subsoil in Calcium-Magnesium Interchange (paper), W. H. MacIntire, W. M. Shaw and J. B. Young, 321–341
types, as related to hydrogen-ion concentration, 41–54
Soil Acidity—
an Ecological Factor (paper), Arthur Pierson
Influence of, on development of potato scab, 69–73
modification of Truog, test, 75–78
of highly basic soils, 195–206
Soils—
absorption phenomena of sodium carbonate in, 315–318
A Comparison of Sand and Solution Cultures with, as Media for Plant Growth (paper), D. R. Hoagland and J. C. Martin, 367–388
A New Apparatus for Mechanical Analysis of (paper), Harlan W. Johnson, 363–366
Manganiferous, the Chlorosis of Pineapple Plants grown on (paper), W. T. McGeorge, 269–274
Organic Phosphorus of (paper), J. T. Auten, 281–294
response of, to fertilizer treatment, 442–446
Studies on Depleted and Virgin (paper), C. E. Millar, 433–448
Soil Solution—
Comparison of the, by Displacement Method and the Water Extract of Alkali Soils (paper), P. L. Hibbard, 465–471
in its physiological aspects, 377–379
in virgin and depleted soils, 433–448
Starkey, Robert L., Waksman, Selman A. and (paper), Partial Sterilization of Soil, Microbiological Activities and Soil Fertility I, 137–156
Starkey, Robert L., Waksman, Selman A. and (paper), Partial Sterilization of and Soil, Microbiological Activities and Soil Fertility, II, 247–268, III, 343–357
Subsoil, acidity in, 41–48
Sulfates—
absorption of, by plants, 230–232
effect of calcic and magnesic additions on outgo of, 1–40, 159–182
extraction of, from alkali soils, 467
of potash, their effect on cumulative chemical properties of soils, 107–114
Sulfur—
effect of—
on biological activities of soil, 266
on calcium and magnesium leachings, 450–451, 457–458
on outgo of sulfates from soil, 152–189
on water soluble potassium, 134–135
on yield and comparison of alfalfa, 127–136
inoculated versus uninoculated, 487–488
oxidation by fungi, 212–214
Studies on, Oxidation in Oregon Soils, (paper), W. V. Halversen and W. B. Bollen, 479–490
Spurway, C. H., McCool, M. M., Veatch, J. O. and (paper), Soil Profile Studies in Michigan, 95–106

Tidmore, J. W., Parker, F. W. and (paper), A Modification of the Truog Soil Acidity Test, 75–78
Tillering, effect of sand and solution cultures on, 375–377
Toluene—
effect of, on bacterial numbers in soil, 151–154
on biological activities of soil, 261–263, 344–350
Truog Soil Acidity Test, Modification of, (paper), F. W. Parker and J. W. Tidmore, 75–78

Vandecaveye, S. C. (paper), The Liberation of Potassium from Feldspars, and of Potassium and Carbon Dioxide from Soils by Fertilizer and Acid Treatment, 389–406

Veatch, J. O., McCool, M. M. and Spurway, C. H. (paper), Soil Profile Studies in Michigan, 95–106

Waksman, Selman A. (paper), Microbiological Analysis of Soil as an Index of Soil Fertility, VI, Nitrification, 55–67

Waksman, Selman A. and Starkey, Robert L. paper), Partial Sterilization of Soil, Microbiological Activities and Soil Fertility, II, 247–268, III, 343–357

Waksman, Selman A. and Starkey, Robert L. (paper), Partial Sterilization of Soil, Microbiological Activities and Soil Fertility, I, 137–156

Wilson, Benjamin D. (paper), The Effect of Plants on the Concentration of Drainage Water from the Cornell Lysimeters, 427–432

Wollastonite—
effect of—
calcium from lysimeters, 331
magnesium from lysimeter, 337–338
on outgo of, sulfates from soil, 1–40

Young, J. B., MacIntire, W. H., Shaw, W. M. and (paper), A 5-Year Lysimeter Study of the Supposed Liberation of Soil Potassium by Calcic and Magnesic Additions, 217–223

Young, J. B., MacIntire, W. H., Shaw, W. M. and (paper), Influence of Calcic and Magnesic Treatments upon Sulfate Leachings from Soil Alone and With Additions of Ferrous Sulfate, Pyrite and Sulfur, 159–182

Young, J. B., MacIntire, W. H., Shaw, W. M. and (paper), Reciprocal Repression Exerted by Calcic and Magnesic Additions upon the Solubility of Native Materials in Surface Soil, 449–464

Young, J. B., MacIntire, W. H., Shaw, W. M. and (paper), The Influence of Calcic and Magnesic Additions upon the Outgo of Sulfates from a Loam Soil as Measured by Lysimeter Leachings over an 8-Year Period, 1–40

Young, J. B., MacIntire, W. H., Shaw, W. M. and (paper), The Variant Rôles of Soil and Subsoil in Calcium-Magnesium Interchange, 321–341